MP MASTER
MA26220

3695

MI-1208
PRELIMINARY INSTRUCTION
MANUAL FOR MODEL 275A
S/N 3200 AND ABOVE

TECHNICAL SPECIFICATIONS

RANGE		MODEL NO.	INPUT IMPEDANCE	ACCURACY	OVERLOAD PROTECTION
Millivolts	000.0 to 999.9	275A	100 Meg	0.04% Of	±100V
	0.000 to 9.999	275A-2	1 Meg	Reading	±1000V
Volts	00.00 to 99.99	275A-3	10 Meg	+ 2	±1000V
	000.0 to 999.9	275A-4	10 Meg	Digits	±1000V

Temperature Coefficient	±50PPM/°C
Reading Time	600 milliseconds maximum to 99.9% of DC step change
Sample Rate	Line frequency
Display	Ultra-long-life NIXIES®
Error Lamp	Indicates overrange or reverse polarity input
Isolation	500 volts DC, input low to ground
Rejection	Normal mode 40db @ 60Hz. Common mode 80db @ 60Hz.
Reading Retention	Circuit opening to hold indefinitely
BCD Output	1-2-4-8 BCD digits and error
Logic	
1	+4 volts with 3.6K ohm impedance
0	+0.4 volts maximum current sink: 5 milliamps maximum
Error	Logic "1" coincident with visual indication
Operating Ambient	50° to 100°F
Power Requirement	105/125 volts 50/60Hz. 5.5VA 210/250 volts ("S" option)
Net Weight	1 lb., 9 oz.
Shipping Weight	24 lbs.
Output Connector	Cinch 251-12-36-160 (furnished)

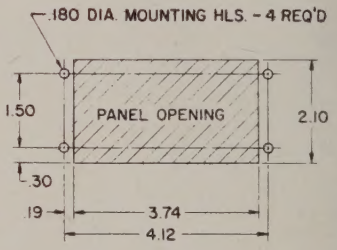
PRECAUTIONS

The rear connector is keyed with the pin numbers on top. Failure to mount the connector correctly may result in permanent damage to the instrument. To operate the instrument, earth ground as well as high and low power must be supplied to the connector. Unstable readings may occur if the earth ground connection is deleted.

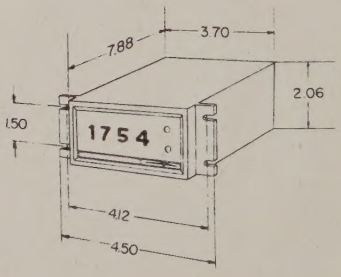
This instrument incorporates a "store" feature that may be used to retain a digital reading. This feature must be defeated with a jumper for normal operation. PINS 1 + 2

INSTALLATION

This instrument is designed to be permanently mounted into a panel using No. 6 screws and studs. The instrument must be inserted into the cutout from the rear. Figure 1 illustrates the instrument opening and mounting dimensions, while Figure 2 illustrates the overall dimensions.



Panel Template
Figure 1



Outline Drawing
Figure 2

DECIMAL POINT SELECTION

Decimal points are factory installed in position "D". It is strongly recommended that the decimal point not be changed in the field; however it can be changed if extreme caution is observed. The decimal point can be in any one of five positions: A, B, C, D, or E (see Figure 3).

To change the decimal point location, remove the solder from the undesired pad location A, B, C, or D (see Figure 5, View 1) with a small, low-temperature iron and apply a drop of solder to the pad corresponding to the new decimal location.

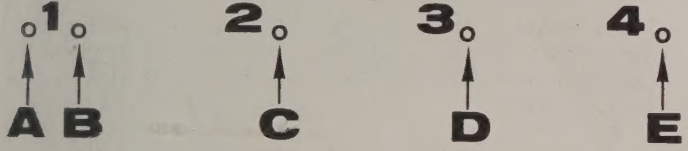


FIGURE 3

OPERATING INSTRUCTIONS

POWER CONNECTION

The power applied to this digital readout can be either 115 or 230 volts A.C., depending on internal connections made at the factory. Units wired for 230 volt operation are designated with an "S" suffix. For either input voltage pin "B" is power high, pin "A" is power low and pin "C" is earth ground. Readings may be unstable if earth ground is not used.

READING RETENTION

Some applications, such as recording of data, require that the normal sampling rate be interrupted and the last digital reading stored. This can be accomplished by opening the connection between pins 1 (store) and 2 (common) of the rear connector.

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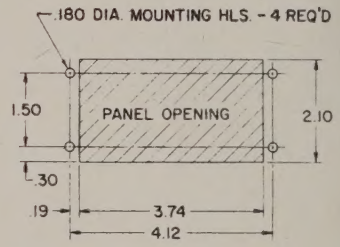

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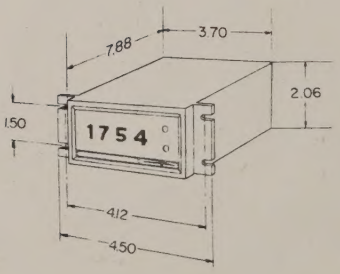

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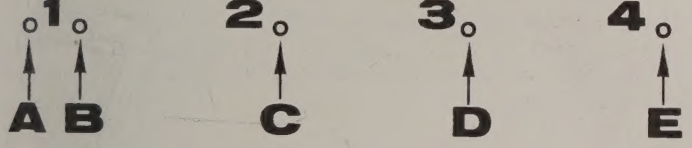

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WARM-UP PERIOD

For maximum accuracy, the instrument should be allowed to warm up for 20 minutes. The instrument, however is operable immediately upon turn-on with a stabilization error of approximately one digit.

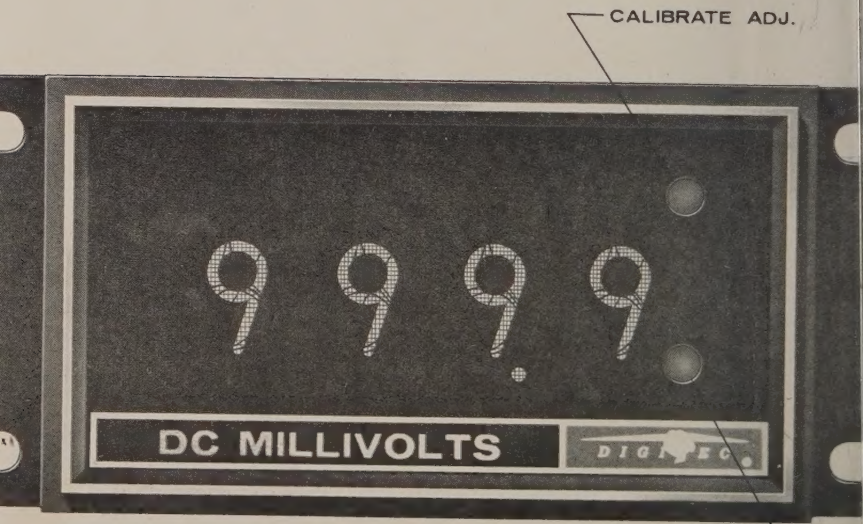
ZERO ADJUSTMENT

The zero adjustment, located on the front panel, is used to zero out internal offsets in the instrument and offset voltages that may be present in the input signal.

CALIBRATE ADJUSTMENT

All instruments are calibrated at the factory to meet or exceed the specification outlined. If recalibration is desired, the following procedure should be used.

1. Allow 20 minutes warm-up and adjust zero.
2. Apply input to pins 8 (positive) and 7 (negative) on the rear connector and adjust the calibrate control for full scale.
3. Recheck zero.



FRONT VIEW OF INSTRUMENT

FIGURE 4

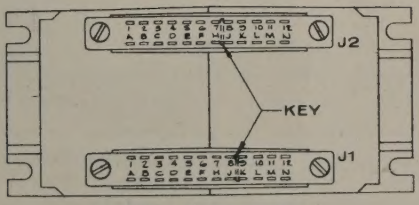
REAR CONNECTORS

J1 BOTTOM

FUNCTION	PIN
Input (positive)	8
Signal Ground (negative)	7
High Line 115V AC HOT	B
Low Line 115V AC LOW	A
Earth Ground	C
Store	1
Common	2
Ramp	10
Resistor	11

J2

FUNCTION	PIN
BCD 1	5
BCD 2	4
BCD 4	3
BCD 8	B
BCD 10	10
BCD 20	9
BCD 40	N
BCD 80	A
BCD 100	6
BCD 200	E
BCD 400	D
BCD 800	C
BCD 1000	L
BCD 2000	K
BCD 4000	8
BCD 8000	7
Error	M
ECD Common	2
Store	1



Rear View of Instrument

UNPACKING AND SHIPPING

After unpacking, carefully examine the instrument for physical damage that may have occurred in transit. If any damage is noted, immediately contact United Systems Corporation for further instructions.

If it should become necessary to return the instrument to United Systems Corporation, make certain that at least four inches of padding material surrounds the instrument to prevent damage during shipment. When returning instruments to the factory, give a full description of the failure of the instrument and the mode of operation that was used when the instrument failure occurred. Ship via REA Express, motor truck, or air freight PREPAID to:

United Systems Corporation
918 Woodley Road
Dayton, Ohio 45403

For foreign countries: Please contact your local representative for instructions.

WARRANTY

"UNITED SYSTEMS CORPORATION guarantees all instruments and accessories to be free from defects in material and workmanship, when subjected to normal use and service. This guarantee is expressly limited to the servicing and/or adjusting of an instrument returned, freight prepaid, to the factory within one (1) year from date of delivery; and to the repairing, replacing or adjusting of parts (excepting lamps and fuses) which upon examination shall be found defective. UNITED SYSTEMS CORPORATION assumes no liability in connection with the sale of such products beyond that specifically provided hereinabove."

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Specifications are subject to change without notice.

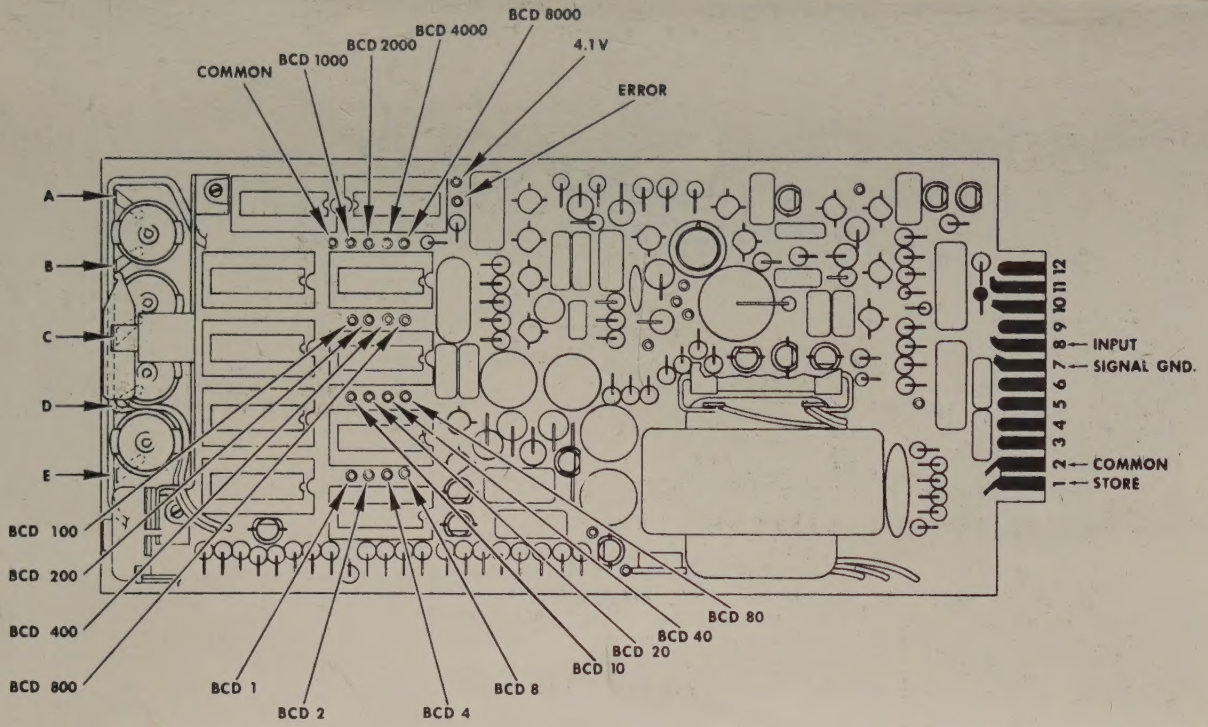

FIGURE 5 (VIEW 1)

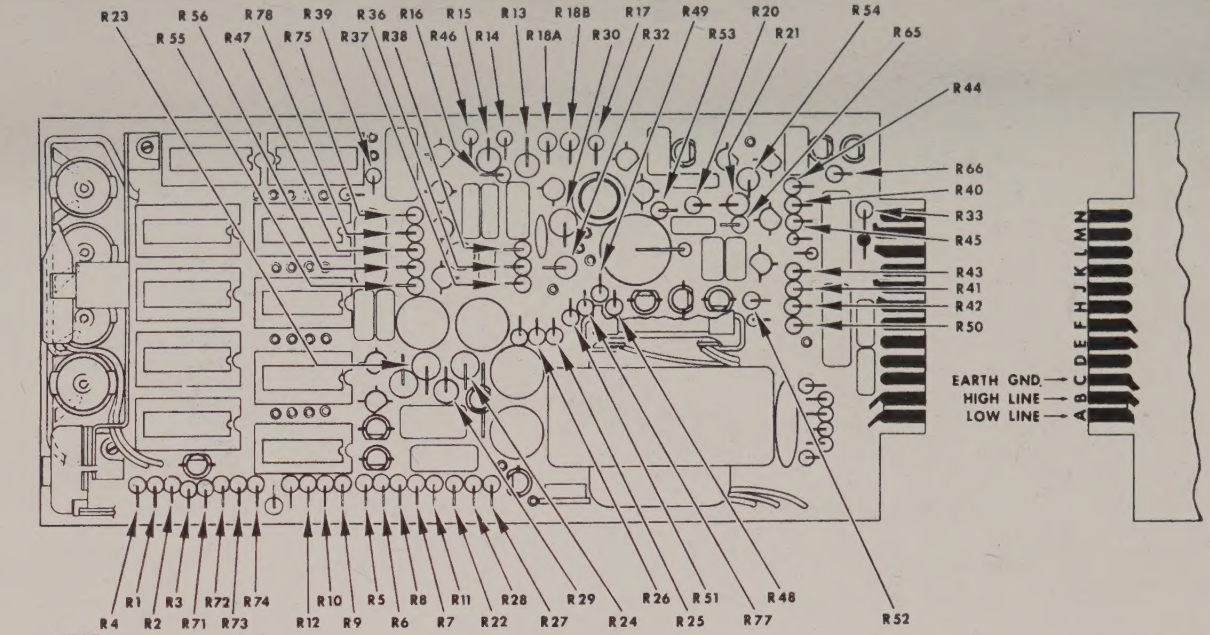

FIGURE 5 (VIEW 2)

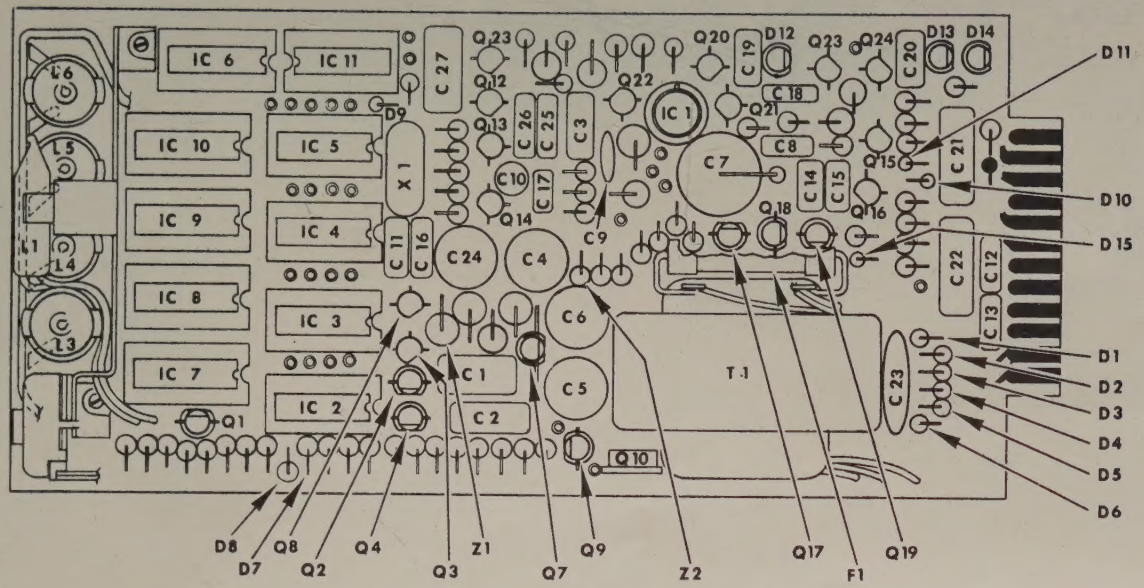

FIGURE 5 (VIEW 3)

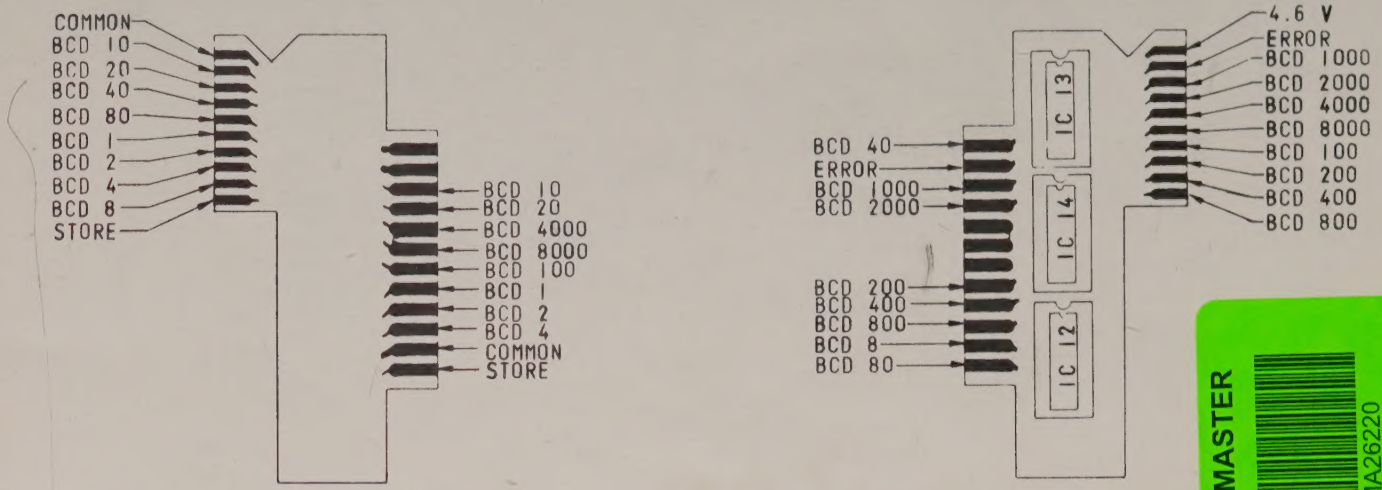

FIGURE 5 (VIEW 4)

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